

was selected in 1958 as site for a national observatory  
extensive 3-year survey that included more than 150  
ranges across the United States.

combination of clear weather, minimum air turbulence,  
free from bright lights, vegetation cover, height and  
commitment area were all factors leading to the final selec-  
tion of Kitt Peak.

It is located in the Quinlan Mountains of the Sonora  
Desert in the Papago Reservation. The reservation, one of  
the largest in the United States, is the home of more than  
100 Indian tribes and spreads some 90 miles across Arizona's Pima

and Maricopa counties. The reservation was leased to the Observatory under the  
a perpetual agreement that is valid as long as scientific  
facilities are maintained at the site.

The Observatory is supported by the National Science Founda-  
tion, an agency of the Federal Government established in  
1862 to advance scientific progress in the United States. In 1957,  
it entered into a contract with the Association of Univer-  
sities for Research in Astronomy (AURA), Inc., for the operation  
of the observatory as a national center for optical astronomy. Under the  
original contract and subsequent agreements, AURA has been  
responsible for the construction, development, and main-  
taining operation of Kitt Peak as a national research

center. It is a non-profit corporation in Arizona in 1957, AURA  
grew from its original 7 charter members to the present 13  
members, all with strong research and graduate training pro-  
grams in astronomy.

Member institutions are:

- University of Arizona
- California Institute of Technology
- University of California
- University of Chicago
- University of Colorado at Boulder
- Harvard University
- University of Hawaii
- Yale University
- University of Michigan
- State University of New York
- Yale University
- University of Texas at Austin
- University of Wisconsin
- University of Wisconsin

*W. M. G. 16 & 18 Nov*

*7 Nov Curle*

*148 Nov Strickland*

*11 Oct Doyle*

national center, Kitt Peak allocates 60 percent of its tele-  
scope time to qualified visiting astronomers from all over the  
world. Allocation of users is based entirely upon the merit of the  
research programs proposed. The remaining 40 per-  
cent of available telescope time is used by the Observatory  
for its own research.

In addition to its contract with the NSF, AURA also operates the Cerro  
Muller American Observatory in Chile.

For more information: Write Public Information Office,  
National Observatory, P.O. Box 26732, Tucson, AZ, 85726.

# kitt peak national observatory

a walking tour



# U. MAYALL 4-METER TELESCOPE

Approved For Release 2000/08/07 : CIA-RDP96-00788R001-0

a fused quartz mirror 4 meters, or 130 inches, in diameter. It is the nation's second largest optical telescope.

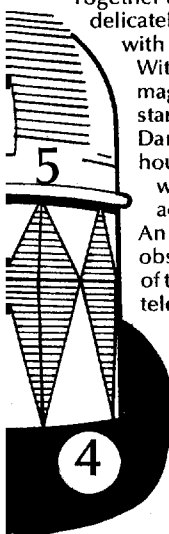
Together the telescope and the mounting weigh 375 tons, yet they are so delicately balanced that accurate tracking of celestial objects is achieved with a small one-half horsepower motor.

With this instrument astronomers can study objects as faint as 23rd magnitude—more than six million times fainter than the dimmest star visible with the unaided eye.

Darkrooms, laboratories, offices, and sleeping quarters are housed in the 19-story-high structure. The movable dome weighs 500 tons; the shutter opening measures 30 feet across. The building itself is 105 feet in diameter.

An elevator provides access to a glass-enclosed observation deck that presents a panoramic view of the observatory; from there steps lead to a telescope viewing gallery for visitors.

The telescope was dedicated in June, 1973, and is named for Dr. Nicholas U. Mayall, former Director of the Kitt Peak National Observatory.



## ELEVATION

The summit of the mountain lies just North of the 4-meter telescope, at an elevation of 2098 meters (6882 feet).

2.3-METER TELESCOPE

50-CM TELESCOPE

TELESCOPE

GRAPH  
nebula in Orion,  
with the Mayall  
telescope.

30-CM SCHMIDT  
TELESCOPE

REST  
ational Observatory, you will note that some points of  
by numbers—both on this map and on the mountain  
below is a brief description of each site.

1-meter telescope, with the McMath Solar Telescope  
you will be looking south. Behind you stand six of the 13  
at Kitt Peak: the 1.3-meter infrared, and the 30-centimeter  
the three telescopes of the University of Arizona;  
1-meter Nicholas U. Mayall telescope dome is visible.

Altar Valley and, visible some 18 miles to the  
to your right) is the town of Sells, tribal headquarters  
ans. The distinctive dome-shaped mountain peak due  
ri, traditional home of the Papago Indian God *I-I'toy*.  
a schematic diagram of the McMath Solar Telescope.  
ers can obtain a picture of the telescope with the  
ground from this point.

vel, photographers find nearly the entire sweep of  
telescopes before them. The large telescope building  
houses the University of Arizona's 2.3-meter telescope.  
you are standing 29 meters, or 96 feet, above the  
p. The Visitor's Gallery provides a view in all  
s of 100 miles on most days, and special non-glare  
is area enhances picture taking. To help with  
along the gallery show the four points of the compass  
of surrounding towns. Mountain ranges visible to the  
ed in Mexico.

iles down this roadway is the Picnic Area with cooking  
rink machines, drinking water and restrooms for your  
beauty, the Picnic Area itself draws many nature

1.3-METER TELESCOPE

emphasis on infrared astronomy, this telescope  
observations of objects such as stars embedded  
st clouds that would be impossible to see with  
a model for all infrared modifications  
ak telescopes.

6

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NOTE: For proper orientation, stand facing the  
Telescope. You will find that your Walking Tour  
agree with the structures visible atop the mountain.

# Welcome to the kitt peak national observatory

## A Walking Tour

As national center for ground-based optical astronomy, Kitt Peak has the largest collection of astronomical instruments in the world. Scientists from all over the world use Kitt Peak facilities for research programs in stellar and planetary studies.

In addition to visiting scientists, over 50 people are employed on the mountain, but only the necessary support staff lives there. Resident astronomers live in dormitory rooms at Kitt Peak.

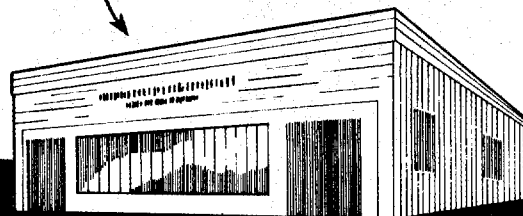
Kitt Peak is open to the public from 10 a.m. to 4 p.m. every day except Christmas. There is no charge or ticket for admission. Regularly scheduled tours of the Observatory are conducted at 10:30 a.m. and 1:30 p.m. on Sunday and holiday. All tours begin at the Visitor Center.

Although no food (other than candy and soft drinks) is sold on the mountain grounds, a picnic area is provided with tables, benches, and fire pits. This Walking Tour Guide has been prepared for visitors who are on a scheduled tour or wish to tour the facilities on their own. Please use it as a handy reference to the National Observatory.

Your interest in the Observatory's programs and facilities is appreciated. We sincerely hope that your visit to Kitt Peak will be an enlightening and informative occasion.

## VISITOR'S CENTER

Exhibits feature many aspects of astronomy, including models of telescopes and the research programs being conducted at Kitt Peak. Visitors can operate an actual solar telescope, and Kitt Peak-produced films are shown on weekends and holidays. Papago handicrafts and various mementos of the Observatory are available at the gift shop.



A 1-meter telescope, with the McMath Solar Telescope, you will be looking south. Behind you stand six of the 13 telescopes at Kitt Peak: the 1.3-meter infrared, and the 30-centimeter Schmidt. The three telescopes of the University of Arizona; the 1-meter Nicholas U. Mayall telescope dome is visible. Altar Valley and, visible some 18 miles to the west, is the town of Sells, tribal headquarters. The distinctive dome-shaped mountain peak due west, traditional home of the Papago Indian God *I-I'toy*. A schematic diagram of the McMath Solar Telescope. Visitors can obtain a picture of the telescope with the telescope from this point. Well, photographers find nearly the entire sweep of telescopes before them. The large telescope building houses the University of Arizona's 2.3-meter telescope. You are standing 29 meters, or 96 feet, above the ground. The Visitor's Gallery provides a view in all directions of 100 miles on most days, and special non-glare viewing area enhances picture taking. To help with orientation, along the gallery show the four points of the compass and maps of surrounding towns. Mountain ranges visible to the west in Mexico. Miles down this roadway is the Picnic Area with cooking facilities, drinking machines, and restrooms for your convenience. The beauty of the Picnic Area itself draws many nature lovers.

1.3-METER TELESCOPE  
ADMINISTRATION BUILDING

1

MAINTENANCE SHOPS

EMPLOYEE'S DINING HALL

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